BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

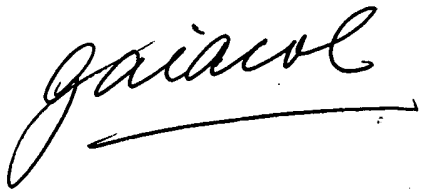
As rescanning documents *will not* correct images, please do not report the images to the Image Problem Mailbox.

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:ssspta1126pjk

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2



* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS 1		Web Page URLs for STN Seminar Schedule - N. America
NEWS 2	Jan 25	BLAST(R) searching in REGISTRY available in STN on the Web
NEWS 3	Jan 29	FSTA has been reloaded and moves to weekly updates
NEWS 4	Feb 01	DKILIT now produced by FIZ Karlsruhe and has a new update frequency
NEWS 5	Feb 19	Access via Tymnet and SprintNet Eliminated Effective 3/31/02
NEWS 6	Mar 08	Gene Names now available in BIOSIS
NEWS 7	Mar 22	TOXLIT no longer available
NEWS 8	Mar 22	TRCTHERMO no longer available
NEWS 9	Mar 28	US Provisional Priorities searched with P in CA/CAplus and USPATFULL
NEWS 10	Mar 28	LIPINSKI/CALC added for property searching in REGISTRY
NEWS 11	Apr 02	PAPERCHEM no longer available on STN. Use PAPERCHEM2 instead.
NEWS 12	Apr 08	"Ask CAS" for self-help around the clock
NEWS 13	Apr 09	BEILSTEIN: Reload and Implementation of a New Subject Area
NEWS 14	Apr 09	ZDB will be removed from STN
NEWS 15	Apr 19	US Patent Applications available in IFICDB, IFIPAT, and IFIUDB
NEWS 16	Apr 22	Records from IP.com available in CAPLUS, HCAPLUS, and ZCAPLUS
NEWS 17	Apr 22	BIOSIS Gene Names now available in TOXCENTER
NEWS 18	Apr 22	Federal Research in Progress (FEDRIP) now available

NEWS EXPRESS	February 1 CURRENT WINDOWS VERSION IS V6.0d, CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP), AND CURRENT DISCOVER FILE IS DATED 05 FEBRUARY 2002
NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS INTER	General Internet Information
NEWS LOGIN	Welcome Banner and News Items
NEWS PHONE	Direct Dial and Telecommunication Network Access to STN
NEWS WWW	CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN Customer agreement. Please note that this agreement limits use to scientific research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

* * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 09:30:13 ON 24 MAY 2002

=> file registry

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 09:30:21 ON 24 MAY 2002

STRUCTURE FILE UPDATES: 22 MAY 2002 HIGHEST RN 420781-77-7
DICTIONARY FILE UPDATES: 22 MAY 2002 HIGHEST RN 420781-77-7

TSCA INFORMATION NOW CURRENT THROUGH July 7, 2001

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Calculated physical property data is now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

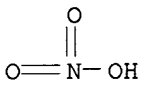
=> search gaiacol
L1 2 GAIACOL

=> dis l1 1- sub bib
YOU HAVE REQUESTED DATA FROM 2 ANSWERS - CONTINUE? Y/(N):y

L1 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2002 ACS
RN 37225-74-4 REGISTRY
CN Acetamide, 2,2-dichloro-N-[2-hydroxy-1-(hydroxymethyl)-2-(4-nitrophenyl)ethyl]-, [R-(R*,R*)]-, mixt. with ammonium nitrate, cyanoguanidine and 2-methoxyphenol (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Guanidine, cyano-, mixt. contg. (9CI)
CN Nitric acid ammonium salt, mixt. contg. (9CI)
CN Phenol, 2-methoxy-, mixt. contg. (9CI)
OTHER NAMES:
CN **Chloramphenicol-gaiacol-dicyandiamide-ammonium nitrate mixture**
FS STEREOSEARCH
MF C11 H12 Cl2 N2 O5 . C7 H8 O2 . C2 H4 N4 . H3 N . H N O3
CI MXS
LC STN Files: CA, CAPLUS

CM 1

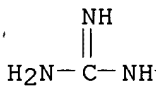
CRN 6484-52-2 (7697-37-2)
CMF H3 N . H N O3



NH_3

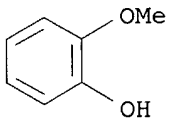
CM 2

CRN 461-58-5
CMF C2 H4 N4



CM 3

CRN 90-05-1
CMF C7 H8 O2

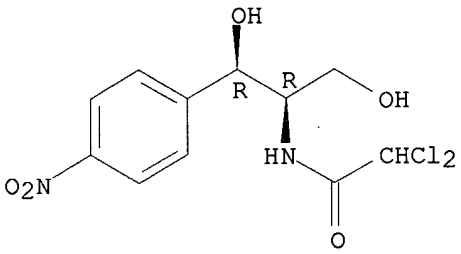


gaiacol

CM 4

CRN 56-75-7
CMF C11 H12 Cl2 N2 O5

Absolute stereochemistry. Rotation (-).



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

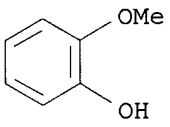
REFERENCE 1

AN 77:71452 CA
TI Dispersing insecticides and other compounds
IN Courtier, Armand J.
PA Laboratorire de Chemie et de Biologie "L.C.B."
SO Fr. Addn., 2 pp. Addn. to Fr. 1,400,487 (See CA 63;13972h).
CODEN: FAXXA3
DT Patent
LA French
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 95103		19700724	FR 1964-6629	19640414

L1 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2002 ACS
RN 1321-14-8 REGISTRY
CN Benzenesulfonic acid, hydroxymethoxy-, monopotassium salt (8CI, 9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Benzenesulfonic acid, hydroxymethoxy-, potassium salt (7CI)
OTHER NAMES:
CN Gaiatase
CN Gaiathiol
CN Guaiacolsulfonate potassium
CN Guajantin
CN Kasucol
CN Orthocol
CN Potassium guaiacolsulfonate
CN Potassium sulfoguaiacolate
CN Silborina
CN Siracol

CN Sirolin
CN **Sulfogaiacol**
CN Sulfoguaiacol
CN Thiocol
DR 12039-59-7, 8063-38-5, 57535-24-7, 27179-22-2
MF C7 H8 O5 S . K
CI IDS, COM
LC STN Files: ANABSTR, BIOBUSINESS, BIOSIS, CA, CAOLD, CAPLUS, CHEMCATS, CHEMLIST, CSCHEM, DDFU, DIOGENES, DRUGU, EMBASE, IPA, MRCK*, PROMT, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)
CRN (50855-43-1)



D1—SO_3H

● K

65 REFERENCES IN FILE CA (1967 TO DATE)
66 REFERENCES IN FILE CAPLUS (1967 TO DATE)
6 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1

AN 133:366468 CA
TI Manufacture of troches using reduced palatinose as a base and coating agent
IN Nakai, Yasumitsu
PA Takaichi Seiyaku K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000327563	A2	20001128	JP 1999-135683	19990517

REFERENCE 2

AN 133:301190 CA
TI Bitterness-masked oral compositions containing sweeteners and sour flavoring agents
IN Fujii, Norikazu; Numao, Masaharu; Nishimura, Kazuo; Ando, Shinji
PA Taisho Pharmaceutical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000290199	A2	20001017	JP 1999-92850	19990331

REFERENCE 3

AN 133:271696 CA
TI Bitterness-masked oral solutions
IN Yano, Hiroko
PA Kobayashi Pharmaceutical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000273051	A2	20001003	JP 1999-76923	19990319

REFERENCE 4

AN 133:63964 CA
TI Granular compositions for tablets and manufacture thereof
IN Ogasawara, Shigeo
PA Lion Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000178184	A2	20000627	JP 1998-359642	19981217

REFERENCE 5

AN 132:15639 CA
TI Ibuprofen granules containing enteric coated granules and their manufacture
IN Kubo, Atsushi; Noto, Mitsuru; Nagamori, Hachiro; Sakuma, Tetsu; Tsubata, Taizo
PA Toa Yakuhin K. K., Japan; Pfizer Pharmaceutical Co., Ltd.
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11335279	A2	19991207	JP 1998-143975	19980526

REFERENCE 6

AN 131:356199 CA
TI Determination of two components in Shangfeng zhike syrups by IP-HPLC
AU Lin, Zhi-Hua; Li, Zhe-Yuan
CS Wuhan Institute for Drug Control, Wuhan, 430012, Peop. Rep. China
SO Zhongguo Yiyao Gongye Zazhi (1999), 30(8), 369-370
CODEN: ZYGZEA; ISSN: 1001-8255
PB Zhongguo Yiyao Gongye Zazhi Bianjibu
DT Journal
LA Chinese

REFERENCE 7

AN 131:120882 CA
TI Stable liquid formulations of mequitazine
IN Fujii, Norikazu; Ando, Shinji; Maki, Akira; Ito, Yuji
PA Taisho Pharmaceutical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent

LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11209288	A2	19990803	JP 1998-9711	19980121

REFERENCE 8

AN 131:106888 CA
TI The applications of the content uniformity test and the weight variation test on process validation tests of multiple ingredient preparations
AU Yoshida, Isao; Sakai, Yoshimichi
CS Gifu Prefectural Institute of Health and Environmental Sciences, Gifu, 500-8226, Japan
SO Chemical & Pharmaceutical Bulletin (1999), 47(5), 678-683
CODEN: CPBTAL; ISSN: 0009-2363
PB Pharmaceutical Society of Japan
DT Journal
LA English
RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

REFERENCE 9

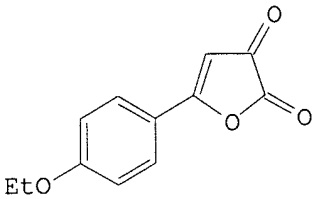
AN 130:156467 CA
TI Tensile strength of adhesively bonded butt joints with thin steel plate and in-situ observation of the adhesive layer
AU Imanaka, Makoto; Kanada, Tomonari
CS Osaka Educational University, Kashiwara-shi, Asahigaoka, 582-8582, Japan
SO Nippon Kikai Gakkai Ronbunshu, A-hen (1998), 64(626), 2620-2627
CODEN: NKGADA; ISSN: 0387-5008
PB Nippon Kikai Gakkai
DT Journal
LA Japanese

REFERENCE 10

AN 129:113659 CA
TI Simultaneous determination of alkali metal ions by ion chromatography using a graphitized carbon column
AU Okamoto, Toshimitsu; Takayama, Kazuo; Ikeda, Masaru; Nagashima, Hisomu
CS Prod. Dev. Lab., Sankyo Co., Ltd., Tokyo, 140-0005, Japan
SO Bunseki Kagaku (1998), 47(7), 389-395
CODEN: BNSKAK; ISSN: 0525-1931
PB Nippon Bunseki Kagakkai
DT Journal
LA Japanese

L22 ANSWER 11 OF 24 CAPLUS COPYRIGHT 2001 ACS
1992:591094 Document No. 117:191094 Carboxylic acids of different structure as bifunctional catalysts. Sychev, D. I. (Inst. Ekol. Genet. Mikroorg., Perm, Russia). Zh. Org. Khim., 28(1), 149-53 (Russian) 1992. CODEN: ZORKAE. ISSN: 0514-7492.

GI



I

AB LFER anal. (k vs. pKa) of carboxylic acid (m- and p-substituted benzoic acids, o-substituted benzoic acids, acetic acid derivs., heterocyclic and .alpha.,.beta.-unsatd. carboxylic acids, and aliph. dicarboxylic acids) catalysis of the acylation of PhNH2 with furandione I, leading to p-EtOC6H4COCH:C(OH)CONHPh is reported. Catalytic activity was inversely proportional to conformational stability; thus, o-substituted benzoic acids were, on av., 1.7 times less catalytically active than meta and para isomers possessing similar pKa values. The 1.3-fold higher activity of arom. carboxylic acids vs. acetic acids was attributed to conjugation effects. Aliph. dicarboxylic acids displayed the highest catalytic activity.

L6 ANSWER 5 OF 5 CA COPYRIGHT 2003 ACS
AN 57:57394 CA
OREF 57:11474g-i,11475a
TI Determination of 3-methoxy-4-hydroxymandelic acid in urine
AU Pisano, John J.; Crout, J. Richard; Abraham, David
CS Natl. Heart Inst., Bethesda, MD
SO Clin. Chim. Acta (1962), 7, 285-91
DT Journal
LA English
AB A specific method is described for the quant, detn. of 3-methoxy-4-hydroxymandelic acid (I) in normal urine as well as in patients with pheochromocytoma. The procedure includes extn. of I from urine, followed by treatment of the ext. with periodalc to form **vanillin**, which is then detd. spectrophotometrically. Oxidized urine exts. are assayed at 360 m.mu. instead of at the **vanillin** peak of 347-350 m.mu. because of the presence of another compd, in urine which is oxidized by periodate to form a substance with an absorption peak below 347 m.mu.. The compd, is probably **p-hydroxymandelic acid** (II), which is oxidized by periodate to p-hydroxybenzaldehyde. The aldehyde has an absorption peak at 330-333 m.mu.. It is possible to det. II and I in the same ext. by noting the absorption at 330 m.mu. (the absorption peak of p-hydroxybenzaldehyde) and 350 m.mu. and solving a simultaneous equation. Thus, the present method provides an assay for II, a probable metabolite of the pharmacol, active synephrifies. The method for detn. of I is relatively simple and requires no special equipment or techniques. Interference from drugs or dietary substances was not encountered. In a series of 20 patients with primary hypertension, the excretion of 1 was 3.7 .+-. 1.1 mg./day (mean .+-. S.D.); the range of values was 1.8-7.1 mg./day. In 23 patients with pheochromocytoma the excretion exceeded 3.4 mg./day. Twenty of these 23 patients had excretion of over 15 mg./day.

=>

L6 ANSWER 3 OF 5 CA COPYRIGHT 2003 ACS
AN 66:102382 CA
TI Determination of 3-methoxy-4-hydroxymandelic acid in urine
AU Wybenga, Donald R.; Pileggi, Vincent J.
CS Bio-Sci. Labs., Van Nuys, CA, USA
SO Clinica Chimica Acta (1967), 16(1), 147-54
CODEN: CCATAR; ISSN: 0009-8981
DT Journal
LA English
AB A specific method is described for the quant. detn. of 3-methoxy-4-hydroxymandelic acid (VMA) in urine. The procedure employs a Dowex 1 anion-exchange resin column for removal of VMA from urine. VMA is eluted with 3N NaCl and oxidized with periodate to **vanillin**. Quantitation is accomplished by reacting **vanillin** with an indole-phosphoric acid reagent to yield a colored compd. which absorbs maximally at 495 m.mu.. Urinary VMA excretions for 60 normal subjects were detd. by this method. A mean daily excretion of 5.2 mg. with a range of 1.8 to 7.6 mg. was obtained. Also studied were 3 patients with surgically confirmed pheochromocytoma. Preoperative VMA values were all elevated, ranging from 17 to 43 mg./day, whereas post-operative values were within the normal range. The influence of various compds. structurally related to VMA was studied with respect to possible interference in the method. Of 44 compds. tested, only **p-hydroxymandelic acid** interfered but only at levels above that normally present in urine. 50 references.

=> search vanillin
L5 10850 VANILLIN

=> search l1 and l5
L6 5 L1 AND L5

=> dis l6 1- bib abs
YOU HAVE REQUESTED DATA FROM 5 ANSWERS - CONTINUE? Y/(N):y

L6 ANSWER 1 OF 5 CA COPYRIGHT 2003 ACS
AN 115:45425 CA
TI Color reactions of homovanillic acid related compounds with nitrosonaphthols
AU Kawai, Satoshi; Noguchi, Mika; Ishigure, Chieko; Kodama, Kyoko
CS Gifu Pharm. Univ., Gifu, 502, Japan
SO Bunseki Kagaku (1991), 40(4), 199-202
CODEN: BNSKAK; ISSN: 0525-1931
DT Journal
LA Japanese
AB Color reactions of 36 homovanillic acid-related compds. were examd. by using 1-nitroso-2-naphthol, 2-nitroso-1-naphthol, and 2-nitroso-1-naphthol-4-sulfonic acid. Reaction specificity is discussed. Guaiacols, phenols with an electron-donating group para to the OH group, and 5-hydroxyindoles gave generally pos. reactions, while compds. having strongly electron-withdrawing groups resulted in no coloration. Catechol derivs. also gave no coloration. Differences were obsd. in color intensity of some compds. when AcOH and EtOH were used as the solvent. However, the 3 reagents resulted in slight variations.

L6 ANSWER 2 OF 5 CA COPYRIGHT 2003 ACS
AN 107:150619 CA
TI An improved spectrophotometric procedure for the determination of urinary metanephrines
AU Stroes, J. W.; Putters, J.; Van Rijn, H. J. M.
CS Clin. Haematol. Lab., Dr. A. Mathijsen Hosp., Utrecht, NL-3509 AA, Neth.
SO Journal of Clinical Chemistry and Clinical Biochemistry (1987), 25(8), 483-6
CODEN: JCCBDT; ISSN: 0340-076X
DT Journal
LA English
AB To reduce the pos. bias that is obsd. in the spectrophotometric detn. of human urine metanephrines for the diagnosis of pheochromocytoma, the method of J. J. Pisano (1960), as modified by J. R. Crout et al. (1961), was combined with a novel procedure that uses 3 equations and absorbance measurements at 3 different wavelengths. All spectra represent a mixt. of **vanillin**, (formed from oxidn. of the desired analytes metanephrine and normetanephrine), p-hydroxybenzaldehyde (formed from oxidn. of the interfering compds. synephrine, **p-hydroxymandelic acid**, and octopamine), and const. background absorption. The 3 variables are calcd. from the absorbances at 333, 360, and 400 nm by using the equations provided. With many patients, the new procedure gave a significant downward adjustment of the values found for total metanephrine excretion.

L6 ANSWER 3 OF 5 CA COPYRIGHT 2003 ACS
AN 66:102382 CA
TI Determination of 3-methoxy-4-hydroxymandelic acid in urine
AU Wybenga, Donald R.; Pileggi, Vincent J.
CS Bio-Sci. Labs., Van Nuys, CA, USA
SO Clinica Chimica Acta (1967), 16(1), 147-54
CODEN: CCATAR; ISSN: 0009-8981
DT Journal
LA English
AB A specific method is described for the quant. detn. of 3-methoxy-4-hydroxymandelic acid (VMA) in urine. The procedure employs a Dowex 1 anion-exchange resin column for removal of VMA from urine. VMA is

eluted with 3N NaCl and oxidized with periodate to **vanillin**. Quantitation is accomplished by reacting **vanillin** with an indole-phosphoric acid reagent to yield a colored compd. which absorbs maximally at 495 m.mu.. Urinary VMA excretions for 60 normal subjects were detd. by this method. A mean daily excretion of 5.2 mg. with a range of 1.8 to 7.6 mg. was obtained. Also studied were 3 patients with surgically confirmed pheochromocytoma. Preoperative VMA values were all elevated, ranging from 17 to 43 mg./day, whereas post-operative values were within the normal range. The influence of various compds. structurally related to VMA was studied with respect to possible interference in the method. Of 44 compds. tested, only **p-hydroxymandelic acid** interfered but only at levels above that normally present in urine. 50 references.

L6 ANSWER 4 OF 5 CA COPYRIGHT 2003 ACS
AN 64:37554 CA
OREF 64:7017g-h,7018a-b
TI Quantitative assay for vanilmandelic acid (VMA) by gas-liquid chromatography
AU Wilk, Sherwin; Gitlow, Staley E.; Mendlowitz, Milton; Franklin, Morton J.; Carr, Herman E.; Clarke, Donald D.
CS Mt. Sinai Hosp., New York, NY
SO Anal. Biochem. (1965), 13(3), 544-51
DT Journal
LA English
AB cf. CA 61, 13618b. Urine contg. 3 mg. creatinine was satd. with NaCl, acidified with 0.1 vol. 3N HCl, extd. with EtOAc (2, 1, and 1 vol., successively) and the EtOAc extd. with 1 ml. M K2CO3. Vanilmandelic acid (I) was cleaved to **vanillin** (II) with 0.2 ml. 2% NaIO4 at 50.degree. for 30 min. The mixt. was cooled and neutralized with 0.4 ml. 5N HOAc and 0.6 ml. phosphate buffer, pH 6.2. II was extd. with toluene, dried, and dissolved in EtOAc, treated with 0.5 ml. trifluoroacetic anhydride, and allowed to stand at room temp. for 1 hr. After drying, O-trifluoroacetylvanillin (III) was dissolved in redistd. EtOAc and chromatographed, using an electron-capture detector. Sepns. were done on a 6 ft. .times. 4 mm. outside diam. coiled glass column packed with either 3 or 6% QF-1 coated on Anakrom ABS 60/70 mesh, column temp. 155.degree., N flow 30 ml./ min., meter range 10-9 amp., with the high-voltage setting at 75 v. on a Packard model 7508 gas chromatograph. Recovery of I-7-3H was 52.0 .+-. 5.1%. Reproducibility was 10.5%. The loss of volatile III was the major source of variability. The av. I excretion of 21 normal subjects was 1.6 .gamma./g. creatinine (range 0.3-3.4). Under these conditions, II had a mass response of approx. 180 mm.2/0.01 .gamma.. At the operable setting of 3 .times. 10-10 amp., <1 nanogram III could be detected. Trifluoroacetylation at 27.degree. under humid conditions sometimes produced a 2nd peak of retention time 0.87 relative to the I peak usually obtained, due to a fully trifluoroacetylated form of II (IV). On standing at room temp., the IV peak diminished and the III peak increased. IV disappeared in 24 hrs., while III was stable for several weeks. The formation of III increased the volatility, enhancing the chromatographic properties of the compd., increasing the sensitivity, and yielding a final ext. free of interfering background material. All urines tested also showed a peak at the retention time corresponding to O-trifluoroacetylbenzaldehyde, so the procedure may be used to det. **p-hydroxymandelic acid**.

L6 ANSWER 5 OF 5 CA COPYRIGHT 2003 ACS
AN 57:57394 CA
OREF 57:11474g-i,11475a
TI Determination of 3-methoxy-4-hydroxymandelic acid in urine
AU Pisano, John J.; Crout, J. Richard; Abraham, David
CS Natl. Heart Inst., Bethesda, MD
SO Clin. Chim. Acta (1962), 7, 285-91
DT Journal
LA English
AB A specific method is described for the quant, detn. of 3-methoxy-4-hydroxymandelic acid (I) in normal urine as well as in

patients with pheochromocytoma. The procedure includes extn. of I from urine, followed by treatment of the ext. with periodalc to form **vanillin**, which is then detd. spectrophotometrically. Oxidized urine exts. are assayed at 360 m.mu. instead of at the **vanillin** peak of 347-350 m.mu. because of the presence of another compd, in urine which is oxidized by periodate to form a substance with an absorption peak below 347 m.mu.. The compd, is probably **p-hydroxymandelic acid** (II), which is oxidized by periodate to p-hydroxybenzaldehyde. The aldehyde has an absorption peak at 330-333 m.mu.. It is possible to det. II and I in the same ext. by noting the absorption at 330 m.mu. (the absorption peak of p-hydroxybenzaldehyde) and 350 m.mu. and solving a simultaneous equation. Thus, the present method provides an assay for II, a probable metabolite of the pharmacol, active synephrifies. The method for detn. of I is relatively simple and requires no special equipment or techniques. Interference from drugs or dietary substances was not encountered. In a series of 20 patients with primary hypertension, the excretion of 1 was 3.7 .+-. 1.1 mg./day (mean .+-. S.D.); the range of values was 1.8-7.1 mg./day. In 23 patients with pheochromocytoma the excretion exceeded 3.4 mg./day. Twenty of these 23 patients had excretion of over 15 mg./day.

=>

L6 ANSWER 3 OF 5 CA COPYRIGHT 2003 ACS
AN 66:102382 CA
TI Determination of 3-methoxy-4-hydroxymandelic acid in urine
AU Wybenga, Donald R.; Pileggi, Vincent J.
CS Bio-Sci. Labs., Van Nuys, CA, USA
SO Clinica Chimica Acta (1967), 16(1), 147-54
CODEN: CCATAR; ISSN: 0009-8981
DT Journal
LA English
AB A specific method is described for the quant. detn. of 3-methoxy-4-hydroxymandelic acid (VMA) in urine. The procedure employs a Dowex 1 anion-exchange resin column for removal of VMA from urine. VMA is eluted with 3N NaCl and oxidized with periodate to **vanillin**. Quantitation is accomplished by reacting **vanillin** with an indole-phosphoric acid reagent to yield a colored compd. which absorbs maximally at 495 m.mu.. Urinary VMA excretions for 60 normal subjects were detd. by this method. A mean daily excretion of 5.2 mg. with a range of 1.8 to 7.6 mg. was obtained. Also studied were 3 patients with surgically confirmed pheochromocytoma. Preoperative VMA values were all elevated, ranging from 17 to 43 mg./day, whereas post-operative values were within the normal range. The influence of various compds. structurally related to VMA was studied with respect to possible interference in the method. Of 44 compds. tested, only **p-hydroxymandelic acid** interfered but only at levels above that normally present in urine. 50 references.

L6 ANSWER 4 OF 5 CA COPYRIGHT 2003 ACS
AN 64:37554 CA
OREF 64:7017g-h,7018a-b
TI Quantitative assay for vanilmandelic acid (VMA) by gas-liquid chromatography
AU Wilk, Sherwin; Gitlow, Staley E.; Mendlowitz, Milton; Franklin, Morton J.; Carr, Herman E.; Clarke, Donald D.
CS Mt. Sinai Hosp., New York, NY
SO Anal. Biochem. (1965), 13(3), 544-51
DT Journal
LA English
AB cf. CA 61, 13618b. Urine contg. 3 mg. creatinine was satd. with NaCl, acidified with 0.1 vol. 3N HCl, extd. with EtOAc (2, 1, and 1 vol., successively) and the EtOAc extd. with 1 ml. M K2CO3. Vanilmandelic acid (I) was cleaved to **vanillin** (II) with 0.2 ml. 2% NaIO4 at 50.degree. for 30 min. The mixt. was cooled and neutralized with 0.4 ml. 5N HOAc and 0.6 ml. phosphate buffer, pH 6.2. II was extd. with toluene, dried, and dissolved in EtOAc, treated with 0.5 ml. trifluoroacetic anhydride, and allowed to stand at room temp. for 1 hr. After drying, O-trifluoroacetylvanillin (III) was dissolved in redistd. EtOAc and chromatographed, using an electron-capture detector. Sepns. were done on a 6 ft. .times. 4 mm. outside diam. coiled glass column packed with either 3 or 6% QF-1 coated on Anakrom ABS 60/70 mesh, column temp. 155.degree., N flow 30 ml./ min., meter range 10-9 amp., with the high-voltage setting at 75 v. on a Packard model 7508 gas chromatograph. Recovery of I-7-3H was 52.0 .+-. 5.1%. Reproducibility was 10.5%. The loss of volatile III was the major source of variability. The av. I excretion of 21 normal subjects was 1.6 .gamma./g. creatinine (range 0.3-3.4). Under these conditions, II had a mass response of approx. 180 mm.2/0.01 .gamma.. At the operable setting of 3 .times. 10-10 amp., <1 nanogram III could be detected. Trifluoroacetylation at 27.degree. under humid conditions sometimes produced a 2nd peak of retention time 0.87 relative to the I peak usually obtained, due to a fully trifluoroacetylated form of II (IV). On standing at room temp., the IV peak diminished and the III peak increased. IV disappeared in 24 hrs., while III was stable for several weeks. The formation of III increased the volatility, enhancing the chromatographic properties of the compd., increasing the sensitivity, and yielding a final ext. free of interfering background material. All urines tested also showed a peak at the retention time corresponding to O-trifluoroacetylbenzaldehyde, so the procedure may be used to det. **p-hydroxymandelic acid**.

L6 ANSWER 5 OF 5 CA COPYRIGHT 2003 ACS

=> search oxidiz?
L7 349442 OXIDIZ?

=> search l1 and l7
L8 6 L1 AND L7

=> dis l8 1- bib abs
YOU HAVE REQUESTED DATA FROM 6 ANSWERS - CONTINUE? Y/(N):y

L8 ANSWER 1 OF 6 CA COPYRIGHT 2003 ACS
AN 137:369832 CA
TI Preparation of mandelic acids
IN Ariyoshi, Kimio; Baba, Hideyuki
PA Nippon Shokubai Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002338515	A2	20021127	JP 2001-148963	20010518
PRAI	JP 2001-148963		20010518		

AB Mandelic acids are prepd. by reaction of arom. compds. with .gtoreq.2 glyoxylic acids chosen from glyoxylic acid, its esters, their oligomers, hemiacetals, and dialkyl acetals. Ethylene glycol was **oxidized** and oxidatively esterified with MeOH to give a soln. contg. 43 wt.% Me glyoxylate and 3 wt.% glyoxylic acid. The soln. was treated with PhOH in the presence of NaOH in H2O at 50.degree. to give 64% **p-hydroxymandelic acid**.

L8 ANSWER 2 OF 6 CA COPYRIGHT 2003 ACS
AN 108:201455 CA
TI Biodegradation of DL-synephrine: a novel pathway in Nocardia sp DM1
AU Raju, Satyanarayana Ganapathi; Vaidyanathan, C. S.
CS Dep. Biochem., Indian Inst. Sci., Bangalore, 560 012, India
SO Journal of the Indian Institute of Science (1986), 66(8), 511-20
CODEN: JIISAD; ISSN: 0019-4964
DT Journal
LA English
OS CASREACT 108:201455
AB Several organisms were tested for their ability to degrade DL-synephrine. One soil pseudomonad and a Nocardia sp have been found to efficiently utilize the compd. Nocardia Sp degraded synephrine by two novel routes; one involving monoamine oxidase and the other involving conversion to p-hydroxyphenyl-acetaldehyde by the synephrinase enzyme. The p-hydroxyphenyl-acetaldehyde was converted to p-hydroxyphenylacetic acid and finally to 2,5-dihydroxyphenylacetic acid which underwent ring fission between C1 and C2 atoms. The monoamine oxidase converted synephrine to p-hydroxymandelicaldehyde which was finally **oxidized** to 3,4-dihydroxybenzoic acid through the intermediate formation of **p-hydroxymandelic acid**, p-hydroxybenzaldehyde and p-hydroxybenzoic acid. 3,4-Dihydroxybenzoic acid was cleaved by an oxygenase through an ortho fission. The route involving synephrinase was the major degradative pathway. However, the two pathways were found to operate simultaneously.

L8 ANSWER 3 OF 6 CA COPYRIGHT 2003 ACS
AN 66:102382 CA
TI Determination of 3-methoxy-4-hydroxymandelic acid in urine
AU Wybenga, Donald R.; Pileggi, Vincent J.
CS Bio-Sci. Labs., Van Nuys, CA, USA
SO Clinica Chimica Acta (1967), 16(1), 147-54
CODEN: CCATAR; ISSN: 0009-8981
DT Journal
LA English

AB A specific method is described for the quant. detn. of 3-methoxy-4-hydroxymandelic acid (VMA) in urine. The procedure employs a Dowex 1 anion-exchange resin column for removal of VMA from urine. VMA is eluted with 3N NaCl and **oxidized** with periodate to vanillin. Quantitation is accomplished by reacting vanillin with an indole-phosphoric acid reagent to yield a colored compd. which absorbs maximally at 495 m.mu.. Urinary VMA excretions for 60 normal subjects were detd. by this method. A mean daily excretion of 5.2 mg. with a range of 1.8 to 7.6 mg. was obtained. Also studied were 3 patients with surgically confirmed pheochromocytoma. Preoperative VMA values were all elevated, ranging from 17 to 43 mg./day, whereas post-operative values were within the normal range. The influence of various compds. structurally related to VMA was studied with respect to possible interference in the method. Of 44 compds. tested, only **p-hydroxymandelic acid** interfered but only at levels above that normally present in urine. 50 references.

L8 ANSWER 4 OF 6 CA COPYRIGHT 2003 ACS
AN 57:57394 CA
OREF 57:11474g-i,11475a
TI Determination of 3-methoxy-4-hydroxymandelic acid in urine
AU Pisano, John J.; Crout, J. Richard; Abraham, David
CS Natl. Heart Inst., Bethesda, MD
SO Clin. Chim. Acta (1962), 7, 285-91
DT Journal
LA English
AB A specific method is described for the quant, detn. of 3-methoxy-4-hydroxymandelic acid (I) in normal urine as well as in patients with pheochromocytoma. The procedure includes extn. of I from urine, followed by treatment of the ext. with periodalc to form vanillin, which is then detd. spectrophotometrically. **Oxidized** urine exts. are assayed at 360 m.mu. instead of at the vanillin peak of 347-350 m.mu. because of the presence of another compd, in urine which is **oxidized** by periodate to form a substance with an absorption peak below 347 m.mu.. The compd, is probably **p-hydroxymandelic acid** (II), which is **oxidized** by periodate to p-hydroxybenzaldehyde. The aldehyde has an absorption peak at 330-333 m.mu.. It is possible to det. II and I in the same ext. by noting the absorption at 330 m.mu. (the absorption peak of p-hydroxybenzaldehyde) and 350 m.mu. and solving a simultaneous equation. Thus, the present method provides an assay for II, a probable metabolite of the pharmacol, active synephrifies. The method for detn. of I is relatively simple and requires no special equipment or techniques. Interference from drugs or dietary substances was not encountered. In a series of 20 patients with primary hypertension, the excretion of 1 was 3.7 .+-. 1.1 mg./day (mean .+-. S.D.); the range of values was 1.8-7.1 mg./day. In 23 patients with pheochromocytoma the excretion exceeded 3.4 mg./day. Twenty of these 23 patients had excretion of over 15 mg./day.

L8 ANSWER 5 OF 6 CA COPYRIGHT 2003 ACS
AN 47:73041 CA
OREF 47:12448d-f
TI The enzymic oxidation of **p-hydroxymandelic acid** to p-hydroxybenzoic acid
AU Gunter, Shirley E.
CS Univ. of California, Berkeley
SO J. Bacteriol. (1953), 66, 341-6
DT Journal
LA Unavailable
AB By employing the technique of simultaneous adaptation evidence was obtained which indicates that whole cells of Pseudomonas fluorescens, strain A.3.12, **oxidize** p-hydroxy-mandelate with the formation of p-hydroxybenzoate and protocatechuate as intermediates. Exts. of alumina-ground, mandelate-adapted cells degrade p-hydroxymandelate only as far as p-hydroxybenzoate. Prolonged dialysis of the enzymic exts. against Na2HPO4 soln. rendered the prepns. incapable of carrying the reaction beyond the initial dehydrogenation of the substrate. The dialyzed enzymic

prepn. catalyzed the oxidation of p-hydroxymandelate with the formation of a keto acid believed to be p-hydroxybenzoyl-formic acid. The degradation of p-hydroxymandelate by undialyzed enzymic exts. proceeds rapidly through the dehydrogenation and decarboxylation steps, giving rise to a compd. identified as p-hydroxybenzaldehyde by means of its absorption spectrum and the formation of the 2,4-dinitrophenylhydrazone. An analysis of the oxidation of p-hydroxymandelate by an enzymic ext. shows that this compd. is degraded to p-hydroxybenzoate by a series of reactions parallel to those by which mandelate is **oxidized** to benzoate.

L8 ANSWER 6 OF 6 CA COPYRIGHT 2003 ACS
AN 5:7765 CA
OREF 5:1396i,1397a-d
TI Synthesis of **p-Hydroxymandelic Acid** and its Alleged Occurrence in the Urin Accompanying Acute Yellow Atrophy of the Liver
AU Ellinger, A.; Kotake, J.
CS Lab. med. Chem. und exper. Pharmakol., Konigsberg
SO Z. physiol. Chem. (1911), 65, 402-13
From: Chem. Zentr., 1910, II, 23-4
DT Journal
LA Unavailable
AB The statements of Schulzen and Reiss (Ann. des Charit.acte.e krankenhauser, 15, 74) that they observed **p-hydroxymandelic acid** in the urin of persons having acute atrophy of the liver, could not be harmonized with the present investigation concerning the intermediate albuminous metabolism. The authors give an explanation of this contradiction by the synthesis of **p-hydroxymandelic acid**. The comparison shows that the acid described by Schluzen and Reiss is not **p-hydroxymandelic acid**. p-Methoxyphenylglyoxylic acid, MeOC6H4COCO2H, was prepared from methoxyacetophenone by **oxidizing** with alk. KMnO4 soln. at 0.degree.; m. 88.degree.. By heating with KOH at 170.degree., p-hydroxyphenylglyoxylic acid, C8H6O4, m. 172-3.degree., was formed. The reduction of p-hydroxyphenylglyoxylic acid with Na-Hg gave d,l-**p-hydroxymandelic acid**, C8H2O4.H2O, small plates, m. 80-90.degree.. The anhydrous acid, m. 105-6.degree.. "From the soln. of the cinchonine salts of d,l-hydroxymandelic acid, the cinchonine salts of d,l-hydroxymandelic acid separates. Decomp. by NH3 yields d,l-hydroxymandelic acid, C8H8O4.0.5H2O, m. 102-3.degree.. From the mother liquor of the cinchonine-l-hydroxymandelate, by decomp. with NH3 is obtained d-hydroxymandelic acid, C8H8.0.5H2O, small plates, m. 103-4.degree., [.alpha.]D .+-. 144.4.degree. (in 1.5% H2O solns.)." Ca salt of the d,l-acid crystallizes in plates with 5.5H2O. When hydroxyphenylglyoxylic acid is administered to dogs and rabbits, no optically active transformation product can be isolated. Only the unchanged acid is obtained.

=>